

## **Chapter 3, Description of the Affected Environment**

### **3.1 Introduction**

The proposed action is located near the geographic center of New Mexico, on an east-trending ridge of a gravel terrace on the west bank of the Rio Grande. The site is located at an elevation of approximately 4600 feet above sea level, and it is about 150 feet above the river valley, providing a panoramic view of important natural topographic features, particularly to the northeast, east, and southeast. The location is important historically as the northern terminus of the Jornada del Muerto section of the Camino Real.

The earliest Spanish exploration in the region came in 1540 from the north, when Coronado sent scouting parties in several directions from what later became the Bernallillo area, after entering New Mexico from the west, via Zuni Pueblo. Later, in 1581, missionaries of the Chamuscado-Rodriguez expedition arrived from the south, following the river. These lay Franciscan missionaries established peaceful relations with the Piro Pueblo Indians who occupied the portion of the Rio Grande from about present day Bernardo on the north, to their southernmost pueblo a few miles from the proposed Center location. South of the proposed Center, the Rio Grande forms a huge arc to the west. This region, between about Las Cruces and the proposed Center location, was uninhabited at the time of the first expeditions so there was no source of supplies from local Indians, which the Spanish depended upon for their explorations. The river route was also deeply cut along the river banks by arroyos and major drainages. In 1598, when Oñate traveled north with the first colonizers to attempt to settle the northern frontiers, these major arroyos made it impossible to move the large two-wheeled supply carts and wagons. As a result, Oñate blazed a new route, leaving the river at about present day Rincon on the south, and traveling north, ninety miles across the desert, behind the Caballo and Fra Cristóbal mountains to rejoin the river, just to the south of the proposed location of the Center. As settlers and later merchants and traders moved north and south along the Camino Real, the point of departure and arrival at the northern end of the Jornada became a camp and then a town (named “Paraje” or “camp”). Also, as traders moved north and south, the black mesa to the north of the proposed Center became the location for counting livestock as they passed by. This mesa, now known as Mesa Del Contadero, jutted out, forming a narrow band of land between the river and its slopes where counters were stationed and the livestock passed below them. Mesa Del Contadero on the northeast, and the Fra Cristóbal mountains to the southeast, marking the Jornada del Muerto, are important natural topographic and historical landmarks which can be viewed from the proposed Center location.

This region of the Rio Grande in New Mexico is often referred to as the “Rio Abajo,” or “lower river.” The immediate area is generally characterized as a broad, fairly level gravel

slope toward the river, dissected by numerous deeply-cut arroyos draining to the Rio Grande. The area is populated most notably by low, dark, green-leaved creosote bush, often with bare ground between individual plants. The bare ground surface forms a “desert pavement” in undisturbed areas, where centuries of wind erosion have removed most small particles forming a relatively stable gravel and pebble surface. The semi-arid gravel terrace is distinctly different from the riverside habitat of the Rio Grande about a mile to the east. In historic times, before the construction of dams, this lower area was naturally flooded by spring snow melt from the northern mountains or by episodic rainfall. In modern times, this lower area is often artificially flooded by back waters of Elephant Butte Reservoir, and is populated by dense salt cedar, cottonwoods, and riverine plants.

Specific information about the existing environment follows in the discussions of individual resources.

### **3.2 Climate**

The study area is located in a middle-latitude dry (semi-arid to arid) climatic region, having warm summer and moderate winter temperatures and receiving a low amount of precipitation. At an elevation of approximately 4600 feet above sea level, the area tends to have cool nights even in summer. The elevation contributes to relatively high levels of solar radiation and evaporation, both summer and winter. West winds predominate, but there is a noticeable diurnal wind pattern of up slope/canyon during the day and downslope/canyon at night.

Daily summer temperatures typically range from 60 to 95 degrees Fahrenheit, while winter temperatures average from 20 to 55 degrees each day. Areas with southern exposures may experience warmer temperatures throughout the year.

Average precipitation varies from 8 to 10 inches per year in the Rio Grande Valley between Socorro and Truth or Consequences, and is slightly greater in the higher elevations to both the east and west, depending on elevation and topographic influences. Most of the annual precipitation occurs in the form of intense, local summer thunderstorms, beginning with the monsoonal moisture circulation from the Pacific Ocean and Gulf of Mexico in July and typically ending in October. The annual average snowfall is approximately five inches, and when snow does occur, it usually melts rapidly.

Climate fluxuations are common in the Southwest, often with alternating wet, dry, hot or cold periods. The wettest period measured in the study area occurred from 1983 through 1992, which averaged 33 percent above normal. However, both 1998 and 1999 had nearly 25 percent below normal precipitation. In addition, five of the last seven years have had above average maximum temperatures. Earlier reports from Spanish explorers and later settlers seem to indicate more lengthy periods of cold and wet winters, and at various

times major rivers in New Mexico become frozen (Tuan and Bennett, 1973).

Historical weather data have been summarized by Gabin and Lesperance (1977), and are available for several locations throughout Socorro and Sierra Counties. Temperature and precipitation data are currently collected at Bingham (since 1940), Bosque del Apache (since 1948), Elephant Butte Dam (since 1917), and Socorro (since 1914), with intermittent periods of data collection at Fort Craig (1940 - 1950), Hot Springs Airport (1951 - 1981), Magdalena (1914 - 1993) and “The Narrows” (1947 - 1964).

### **3.3 Air Quality and Sound Quality**

Air quality in the study area is typical of undeveloped regions in the western United States; ambient pollutant levels are usually near or below the measurable limits. There are no major stationary sources of air pollution in the immediate vicinity, although there is a Burlington Northern/Santa Fe rail line about eight miles to the east, and vehicular traffic along Interstate 25 approximately 3.5 miles to the west. Notable exceptions include high, short-term concentrations of particulate matter (dust) related to strong local winds, especially during spring. Areas of undisturbed “desert pavement” would not contribute to windblown dust except in severe conditions, but disturbed areas such as unsurfaced roads and two-tracks are a source of wind-blown dust.

Average visibility is about 60 to 80 miles, with the poorest visibility occurring during the summer months. Most of the region has been designated as a Class II air quality area, although the Bosque del Apache Wilderness Area was designated as a mandatory Class I area. The USDI - U.S. Fish & Wildlife Service has estimated the natural background visibility to be nearly 150 miles. Most regional visibility impairment is due to sulfate particles, with organic carbon (vegetation), light-absorbing carbon (smoke) and soils also contributing.

Although noise levels have not been measured, natural background levels are likely to be 40-50 dBA. The daytime intrusion threshold is probably around 60-70 dBA, but given the study area’s rural setting, elevated noise levels are not likely to be reached except due to intermittent jet noise from low-level military aircraft flights throughout the White Sands Missile Range/Holoman AFB/Fort Bliss triangle. Commercial air traffic generally operates at very high altitudes and results in no noticeable noise at ground-level. Vehicle traffic on Interstate 25 can not usually be heard in the study area, except under unusual atmospheric conditions (stable dispersion, light easterly winds, etc.).

### **3.4 Geology and Topography**

The geology and topography of the proposed Center location and the surrounding area are described in detail in the mineral report (Appendix C). The mineral report describes the

middle Rio Grande rift zone and local gravel terraces incised by arroyos draining to the Rio Grande. The proposed Center location was selected and requested by the State specifically because of the topographic setting and the suitability of the geologic strata for construction. The design of the Center was created specifically to incorporate the elevated ridge edge for an overlook toward the historic Camino Real, and it incorporates a minor side-arroyo of the location as an opening with windows for a portion of the lower level of the building. The topography of the site is, therefore, integral to the design of the Center.

### **3.5 Water Resources**

#### **3.5.1 Ground Water**

Ground water information is limited in the area. The nearest wells to the site are at Ft. Craig located 5 miles northeast of the site and the New Mexico Highway Department Rest Stop located 3 miles northwest of the site. Water levels at Ft. Craig is 62 feet and at the rest stop is 226 feet below the surface. It is estimated that the water levels at the Center will be from 100 to 200 ft below the surface.

Water quality information for the rest stop well is published in the U.S. Geological Survey Water-Resources Investigations Report 89-4083 and the Ft. Craig well was tested by the New Mexico Bureau of Mines and Mineral Resources for its acceptability for drinking water. Comparisons with New Mexico Drinking Water Standards show the Rest Stop Well and the Ft. Craig Well are within established water quality standards for human consumption.

The geologic unit from which these wells are producing is mapped as the Qts formation, (Quaternary and Tertiary rocks Santa Fe Group, consisting of conglomerates, mudstones, siltstones, sandstones, claystones, interlayered with basaltic and rhyolitic lavas and tuffs). It is probable that the proposed well at the site will produce water from the same geologic formation. Drinking water quality from the proposed well should be similar to the Rest Stop Well and Ft. Craig Well.

#### **3.5.2 Surface Water**

Except for the Rio Grande, located 1.5 miles to the east, surface water is normally not present at or near the proposed site. Sheep Canyon, located partially within the southern portion of the proposed 120-acre site, is normally a dry arroyo. It is ephemeral in nature, only flowing surface water in response to thunder showers which occur during the monsoon period, normally July through September. These storms usually occur as high-intensity, short-duration thunder storms.

### **3.5.3 Nonpoint Source and Point Source Pollution**

The Clean Water Act (CWA) requires states to identify nonpoint sources of pollution and develop procedures using “Best Management Practices” (BMPs) to attain and maintain designated beneficial uses of water. Land uses are known to cause pollutants such as sediment, bacteria, and chemical releases from watersheds which may impact water courses and streams. The New Mexico Environmental Department (NMED) has designated “water quality limited streams or reaches” as required by section 303(d) of the CWA, where designated water quality standards are not being met. The proposed Center is located 1.5 miles west of the Rio Grande. This portion of the Rio Grande is not listed on the Final Record of Decision for the 1998-2000 State of New Mexico 303(d) List For Assessed River/Stream Reaches Requiring Total Maximum Daily Loads (TMDLs).

### **3.6 Wild and Scenic Rivers**

No designated wild and scenic rivers are present in the area of the proposed action.

### **3.7 Wetlands and/or Riparian Areas**

Wetlands occur in the Rio Grande riparian zone, beginning approximately one mile east of the proposed Center location. These wetlands are managed by the BOR, which is presently preparing a Resource Management Plan (RMP) for their management. As noted in Section 1.4 nothing is planned by the BOR which would be incompatible with the proposed Center, and conversely, the proposed Center will not affect BOR management plans.

### **3.8 Flood Plains**

No flood plains are located within the proposed Center site. The Rio Grande flood plain begins about one mile east of the location.

### 3.9 Soils

The Soil Survey of Socorro County Area, New Mexico was completed in 1984 by the Soil Conservation Service. The 120-acre Center site is located on three soil mapping units. These are: Map Unit 621- Arizo-Riverwash complex, 0 to 5 percent slopes; Map Unit 649- Nickel-Caliza very gravelly sandy loams, 1 to 30 percent slopes; and Map Unit 655- Nolam gravelly sandy loam , 1 to 7 percent slopes. The access road from highway 1 to the site crosses Map Units 649 and 655. These units range in elevation from 4400 ft. to 5500 feet.

Map Unit 621 occurs on valley floors and small alluvial fans associated with arroyos and drainageways. This unit is 55 percent Arizo gravelly sandy loam 0-5 percent slopes, and 30 percent riverwash.

The Arizo soil is deep and excessively drained. It was formed in gravelly alluvium. Typically, the surface layer is yellowish-brown, gravelly, sandy loam about 2 inches thick. The upper 13 inches of the underlying material is light-brown, gravelly, loamy, coarse sand, and the lower part to a depth of 60 inches or more is stratified, pink and light-brown, very gravelly, coarse sand, and very gravelly, loamy, coarse sand.

Permeability of the Arizo soil is very rapid. Available water capacity is very low. Effective rooting depth is 60 inches or more. Runoff is slow, and the hazard of water erosion is slight. The hazard of soil blowing is high. This soil is subject to occasional periods of flooding during thunderstorms in summer.

Riverwash consists of loose sand, pebbles, cobbles, and stones in channels and on bars. It is devoid of vegetation and is subject to frequent periods of flooding.

Map Unit 649 occurs on bajadas and fan terraces. This unit is 55 percent Nickel very gravelly, sandy loam, on 1 to 25 percent slopes, and 25 percent Caliza very gravelly, sandy loam, on 1 to 30 percent slopes.

The Nickel soil is deep and well drained. It formed in gravelly alluvium derived dominantly from rhyolitic tuff and lava. Typically, the surface layer is pinkish-gray, very gravelly, sandy loam about 8 inches thick. The upper 46 inches of the underlying material is pinkish-white and pink, extremely gravelly, sandy, loam and very gravelly, sandy loam, and the lower part to a depth of 60 inches or more is pink, extremely gravelly loam.

Permeability of the Nickel soil is moderately slow. Available water capacity is low. Effective rooting depth is 60 inches or more. Runoff is medium, and the hazard of water erosion is moderate. The hazard of soil blowing is high.

## El Camino Real Center

The Caliza soil is deep and well drained. It formed in alluvium derived dominantly from rhyolitic tuff and lava. Typically, the surface layer is brown, very gravelly, sandy loam about 3 inches thick. The upper 14 inches of the underlying material is pale-brown, very gravelly, coarse sandy loam, and the lower part to a depth of 60 inches or more is pale-brown extremely gravelly, loamy coarse sand.

Permeability of the Caliza soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 60 inches or more. Runoff is medium, and the hazard of water erosion is moderate. The hazard of soil blowing is high.

Map Unit 655 occurs on broad fan terraces and bajadas. It formed in alluvium derived from rhyolitic tuff and lava.

Typically, the surface layer is light-brown, gravelly, sandy loam about 2 inches thick. The upper 11 inches of the subsoil is reddish-brown, very gravelly, sandy clay loam, and the lower 12 inches is light reddish-brown, very gravelly, sandy loam. The substratum to a depth of 60 inches or more is pink, very gravelly, sandy loam.

Permeability of this soil is moderate. Available water capacity is very low. Effective rooting depth is 60 inches or more. Runoff is slow, and the hazard of water erosion is slight. The hazard of soil blowing is high.

The suitability of the soils for construction in the immediate are of the proposed Center is described in the Soils Report (Appendix B).

### **3.10 Locatable Minerals**

The mineral report for the proposed Center location is attached as Appendix C. The report provides information on a number of categories of minerals, including energy resources, metals, and industrial minerals. Other than industrial minerals (“Mineral Materials,” below) mineral potential in the area is considered low. For additional information, please see Appendix C.

### **3.11 Mineral Materials**

Mineral materials consist of industrial materials such as rock, sand, and gravel. Management of mineral materials is not covered under the mining law, and sales are discretionary. The mineral report for the proposed Center location found that good quality gravel is present. However, the same material sources are uniformly present along the western terraces of the Rio Grande. Sand and gravel resources in the area are not unique to the study area, and alternative sources are readily available in the region.

### **3.12 Leasable Minerals**

Leasable minerals include resources such as coal and petroleum. Coal has been produced in the Carthage area, about 30 miles north of the location, but there is no known potential nearby. There has been no petroleum production in the area, and if potential occurs, it is expected to be far west of the area in central Catron County. A small area in Section 13 (approximately NW 1/4) T 8 S, R 3 W is designated as “No Surface Occupancy,” under the Socorro Gas and Oil Leasing Stipulations (1989 RMP). This is believed to be a typographical error or mis-location of the Fort Craig site, where such a stipulation was intended. (Administrative or typographical errors can be corrected in the RPM through “maintenance.”)

### **3.13 Solid and Hazardous Wastes**

Through initial site surveys conducted by the Socorro Field Office hazardous materials coordinator it was determined that no hazardous materials are located at the site or along the access road. No illegal dumping of materials has occurred in the area. During construction industrial use of hazardous materials may occur.

### **3.14 Vegetation**

The vegetation within the proposed Center location and general surrounding area lies within the Southern Desertic Basins, Plains and Mountains Major Land Resource Area (MLRA). Several plant communities exist within the surrounding area. The 120-acre site is dominated by a drought-tolerant grass and shrub community. Ground cover is sparse and litter accumulates slowly, relative even to other semi-arid sites. Other plant communities within the general area include a soil limiting, mixed shrub-grassland ecosystem dominated by short grasses, such as black grama, and occasionally mid-grasses, with drought-tolerant desert shrubs such as creosote bush and tar bush. The vegetation occurs naturally in thin stands with somewhat depressed “micro-sites” supporting a greater abundance of mid-grasses. Where exposure is a factor, north slopes tend to be more grassy while south slopes are characterized by shrubs. Other plant communities occur within the bottomlands. The bottomland site is a tall grass ecosystem dominated by giant sacaton. Tobasa, vine-mesquite, alkali sacaton, and cane bluestem are associated species, with burrograss and mat muhly are also present. The vegetation within the area to the east includes a “bosque” riparian habitat that occurs along the Rio Grande. Vegetation species within this area include cottonwoods, willows and salt cedar.

### **3.15 Forestry**

The proposed Center site is located in a desert shrub community. No trees are present. The Rio Grande bosque, managed by the BOR, begins approximately one mile east of the



location and Cottonwoods are present along with dense saltcedar.

### **3.16 Prime and Unique Farmlands**

No prime or unique farmlands are present within or near the area of the proposed action.

### **3.17 Livestock Grazing**

The proposed Center is located on public lands which are part of The Scott Ranch Grazing Allotment (No. 01261). The Scott Ranch includes eleven pastures totaling 29,470 acres of rangeland. The ranch consists of 3,331 acres of private land and federal and state lands totaling 25,130 acres. Of these, 19,744 acres are public land managed by the BLM; 4,320 acres are federal lands managed by the BOR; and 2,075 acres are state land. The pasture where the Center is proposed to be located consists of approximately 4,100 acres. Livestock numbers within this pasture are light in comparison with total surface acres. Under the current operation, livestock numbers within this pasture increase for a few days each fall, usually between mid- and late-November. This occurs because the only access to the west half of the allotment is through an underpass under I-25 and through the pasture where the Center is proposed to be located. Livestock are gathered each fall on the entire allotment and calves are shipped at this time.

### **3.18 Wildlife**

Wildlife habitat for the lands within Socorro Field Office have been categorized using a classification system called the Standard Habitat Site (SHS). SHS's are areas which have similar dominate and sub-dominate plants, land form, and other ecosystem determinates. The SHS for the proposed Center location is identified as the Creosote Hill SHS. A thorough description of this SHS and it's associated fauna can be found in the Socorro Integrated Habitat Inventory Classification System (IHICS) computer program which is on file at the Socorro Resource Area office. This area contains a diverse population of wildlife. Wildlife species known to occur in the area are mule deer, antelope, coyotes and various reptiles, rodents, and songbirds. Habitat quality is fair to good for wildlife.

### **3.19 Threatened or Endangered Species**

On February 16, 2000 the Socorro Field Office (FO) of the Bureau of Land Management in accordance with the Endangered Species Act, requested a list of endangered, threatened, and candidate species for the public lands within the proposed 120-acre El Camino Real de Tierra Adentro International Heritage Center (Center) site. No federally-listed plants or animals, or their potential habitat, are present in the proposed Center location.

### **3.20 Wild Horses**

Socorro FO manages a wild horse herd of approximately 50 horses in the Bordo Atraversado Herd Management Area in northern Socorro County. No wild horses are present in the study area.

### **3.21 Cultural Resources**

The history and prehistory of this region is significant and includes evidence of all time periods in the human occupation of New Mexico. However, archeological and historic sites are very rare in the creosote desert scrublands on the west side of the Rio Grande in this region. An archeological survey of the proposed 120-acre compound, access road, utility routes, and all other facilities proposed for the Center will be conducted to determine if any sites eligible for the National Register of Historic Places are present.

Cultural material and sites in similar topographic settings in this region of the Rio Grande tend to consist of individual chipped stone artifacts, chipped stone scatters, and low-visibility features, such as prehistoric or historic hearths, and stone markers or cairns. Such sites and resources are generally amenable to avoidance or treatment to ensure that no adverse effects occur.

### **3.22 Native American Religious Concerns**

The Rio Abajo region of the Rio Grande was home to the Piro Pueblo Indians, the majority of whom moved south to the El Paso/Juarez area with the Spanish during the Pueblo Revolt in 1680. Descendants of the Piro, who also trace their origins to Tewa to the north of the Piro province, now live at Socorro del Sur and Isleta del Sur in El Paso, Texas. Due to the separation of over 300 years from the local geography and traditions relating to it, no specific religious concerns have arisen. However, contacts with Isleta del Sur have been made and interest has been expressed in how the Piro culture and history is interpreted at the Center. Traditional cultural representatives will be invited to review and participate in the depiction of their culture at the Center. None of the Native American tribes contacted during the scoping process expressed concern with religious issues related to the land or proposed action.

### **3.23 Paleontological Resources**

Late Cenozoic vertebrates are found in strata of the Santa Fe Group throughout the Rio Grande rift basins of New Mexico. Along the Rio Grande terrace from Santa Fe south to T or C, are Pliocene and Pleistocene sediments that represent a variety of continental deposits including coalescing alluvial fans, lakes, and river systems. Within these

sedimentary units are found fossils of mammoths, mastodons, Stegomastodons, bison, horses, camels, bears, dogs and saber toothed cats from about 3 million years to the present.

The fossils found along these river terraces and their associated data provide important information for the overall analysis of paleoclimate, past plant and animal assemblages and Pleistocene dispersal routes. These fossils are an important means by which the age relationships of the Santa Fe Group are determined, and they provide a rich source of material for scientific research and public education.

### **3.24 Visual Resources**

The project area contains very few visual intrusions but is currently managed under a Visual Resource Management (VRM) Class IV in the Socorro RMP. The objective of this class is to provide for management activities which require major modification of the existing character of the landscape. The level of change to the characteristic landscape can be high. These management activities may dominate the view and be the major focus of viewer attention. However, every attempt should be made to minimize the impact of these activities through careful location, minimal disturbance, and repeating the basic elements. The Socorro RMP does not contain any rights-of-way (ROW) avoidance or exclusion limitations for the area. Therefore, at present, it is possible for major visual intrusions such as large communications towers and transmission distribution lines to be built in the project area if they comply with the Class IV management objective previously described and are authorized. Additional information on factors affecting visibility in the area can be found in Section 3.2 (Air and Noise).

### **3.25 Areas of Critical Environmental Concern, Research Natural Areas, Special Management Areas**

No BLM Areas Of Critical Environment Concern, Research Natural Area, or Special Management areas are present in the vicinity of the proposed Center. However, the Bureau of Reclamation in consultation with the Fish And Wildlife Service have identified the presence of two endangered species in the portion of the Rio Grande flood plain managed by BOR, approximately 1.5 miles east of the proposed Center, which is being addressed in the BOR Resource Management Plan presently being developed. BOR's management alternatives are compatible with the purposes of the proposed Center.

### **3.26 Wilderness and Wilderness Study Areas**

The proposed action is not within a wilderness or wilderness study area.

### **3.27 Recreation**

The proposed location of the Center and the immediately surrounding public lands are not commonly used for recreation. There are no distinguishing features or facilities which attract recreationists. The public lands are open to hunting, but access to the Rio Grande flood plain is privately owned, so hunting and fishing potential in the flood plain along the existing road, east of the proposed Center is privately controlled. The present Off Road Vehicle (ORV) designation of public lands in the area is “open.” Quail, dove, and deer hunting in the uplands and major drainages such as Simon Canyon and Sheep Canyon may occur from time to time, but is probably limited by the presence of game, which is very “spotty.” Access for fishing requires permission of the private land owner, and unlike “Catfish Camp,” managed by NM State Parks on the next river road (approx. 1.5 miles south) there is no access to open water for either fishing or boat launching. No other forms of recreation are known to presently occur in the area.

### **3.28 Utility Corridors**

An existing electrical power transmission line parallels the east side of NM highway 1 in the vicinity of the proposed Center. No other designated utility corridors are present in the immediate area.

### **3.29 Social and Economic Conditions**

The proposed Center could potentially affect the four, lower Rio Grande counties of Valencia, Socorro, Sierra, and Dona Ana. These counties form the economic study area (ESA) and will form the basis of the social economic profile for the area.

### **Valencia County**

Valencia County is the northernmost county of the ESA. The government sector is the largest provider of jobs within the county, 34 percent. The retail trade sector is next, at 23 percent. The unemployment rate for 1999 was 4.5 percent. Per capita personal income rose 29 percent from 1990 to 1997 and was \$16,175 for 1997.

### **Socorro County**

The Socorro County economy is based chiefly on governmental spending, particularly state spending in connection with the New Mexico Institute of Mining and Technology in the town of Socorro. The government sector provides the county with 40 percent of its employment. The service & misc industry is next, providing 34 percent of employment in the county. The retail trade sector provides 16 percent of the jobs in the county. The unemployment rate for 1999 was 5.3 percent. Per capita personal income rose 27 percent from 1990 to 1997 and was \$13,848 for 1997.

### **Sierra County**

Sierra County has the highest per capita income among the four counties of the ESA. Per capita personal income rose 45 percent over the study period, and was \$17,914 for 1997. Sierra County's income is derived chiefly from the sizable retired community residing in Truth or Consequences, the county seat. The government sector is the largest provider of jobs within the county at 31 percent. The services & misc sector is next, providing 26 percent of the county's employment. The unemployment rate for 1999 was 3.2 percent.

### **Dona Ana County**

The market value of agricultural products sold in Dona Ana County is an important part of the county's economy. For 1997 this value was \$235,484,999. The government sector was the largest supplier of jobs for the county at 34 percent. Service and misc was next, providing 23 percent of industry jobs in the county. The unemployment rate for 1999 was 7.6 percent. Per capita personal income rose 20 percent and was \$14,923 for 1997.

**Employment by Industry 1998 Annual Averages**

(Number of Jobs)

	Valencia County	Socorro County	Sierra County	Dona Ana County
Manufacturing	1,037	134	41	2906
Mining	a	a	a	a
Contract Construction	830	113	150	3150
Transportation & Public Utilities	555	106	148	1937
Wholesale Trade	387	26	44	1214
Retail Trade	2523	738	638	9772
Finance, Insurance, & Real Estate	301	120	239	1993
Services & Misc	1741	1565	779	12739
Government	3727	1860	915	18757

Source: New Mexico Department of Labor

a ) Included in Services &amp; Misc.

**Population**

The 2000 population for the ESA is estimated to be 275,235. Dona Ana County is the largest county in the ESA while Sierra County is the smallest. By the year 2020 the ESA population is expected to grow to 428,597, a 56 percent change. The Hispanic population was estimated by the 1996 Census to be 51.4 percent in Valencia County, 48.8 percent in Socorro County, and 24.6 percent in Sierra County. Dona Ana County had an estimated 57.6 percent Hispanic population in 1996.

**Population Projections**

Year	Valencia County	Socorro County	Sierra County	Dona Ana County
2000	66,699	16,734	11,338	180,464
2005	76,582	17,614	11,926	202,430
2010	87,575	18,469	12,502	227,009
2020	112,909	20,156	13,380	282,152
2030	142,089	21,651	14,046	345,458

Source: Bureau of Business &amp; Economic Research

**Housing**

The ESA housing stock for rentals was in good supply for 1990. The housing stock information from the 2000 Census is not available. Rental vacancy rates below 10 percent indicate an area that possibly has housing stock in short supply. Given the projected population growth for the area over the next 20 years, housing stock could be an issue if it does not keep up with demand.

**Housing (1990 Census)**

	Valencia County	Socorro County	Sierra County	Dona Ana County
Total housing units	16,781	6,289	6,457	49,148
% change from 1989	46.5%	35.7%	19.8%	44.8%
Vacancy rate (owned)	2.6%	2.4%	5.6%	2.3%
Vacancy rate (rental)	14.5%	15.7%	21.8%	8.3%

Source: Census Bureau

## Workforce

Workforce data for 1999 is presented in the following table. Dona Ana County has the largest workforce and experienced the highest unemployment rate for the ESA

### Workforce October 1999

	Valencia County	Socorro County	Sierra County	Dona Ana County
Civilian Labor Force	28,842	6,274	3,966	69,148
Employment	27,552	5,941	3,838	62,995
Unemployment	1,290	333	128	5,153
Rate	4.5%	5.3%	3.2%	7.6%

Source: New Mexico Department of Labor

## Poverty

New Mexico has a poverty rate nearly double that of the average for the United States. In 1993, the percent of persons below the poverty level, nation-wide, was 13.2 percent. For New Mexico that year, the rate was 22.4 percent. Valencia County's rate was 21 percent, a little below the state average; Sierra County was a little higher than the state average at 23.1 percent; Dona Ana County was higher than the state average at 30 percent; and Socorro County had the highest poverty rate among the four counties, at 31.2 percent.

### 3.30 Transportation

The proposed location is accessed by an existing, single-lane, gravel road (County 255) from NM Highway 1. Highway 1 at one time was the primary, north-south, motorized route between Albuquerque and Las Cruces. It now serves as a frontage road for Interstate 25, which replaced it. I-25 is a four-lane divided highway and the proposed Center location is approximately 3.5 miles south and east of I-25 Exit 115. Access to the location will utilize the existing on- and off-ramps to I-25.

### 3.31 Land Use and Zoning

Land use in the area of the proposed Center has been predominately for livestock grazing. Socorro County has no zoning regulations which would affect the proposed action.



### **3.32 Invasive or Noxious Weeds**

There are no known invasive or noxious weeds within the proposed Center location or along County Road 255. However, in the riparian habitat beginning about one mile to the east, both saltcedar and perennial pepperweed are present.